

## SCHOOL OF MINES.—REPORT OF THE DIRECTOR.

(Professor James Park, M. Inst. M.M.; M.A., I.M.E., F.G.S.)

The School of Mines for the session of 1913 showed an attendance of 18 registered students, of whom 16 were entered for the full associate course, 1 for surveying, and 1 for applied mechanics. Altogether there was an accession of 9 new students for the full course. The current session (1914) started with the satisfactory registration of 11 new students, and we now have 28 students taking the full associate course, exclusive of those attending lectures in geology and dental metallurgy. This is the largest attendance since the year 1901. Of these, 20 have entered for the associate course in mining engineering, 5 for the associate course in geology, and 3 for the course in land and mine surveying.

The results of the annual examinations in October, 1913, were as high as in previous years, only three failures being recorded—one in mathematics, one in mechanics, and one in practical chemistry. In September, 1913, Mr. John Mackay, A.O.S.M., passed the examinations of the New Zealand Board of Examiners, and obtained his diploma as a licensed surveyor. In the same year E. Fletcher Roberts and R. S. Thompson succeeded in passing the examinations of the Institution of Civil Engineers, entitling them to the associateship (A.M.I.C.E.) of that institution. The first-named was bracketed with another Otago University student (A. S. Wansbrough) as taking the first place among all the candidates from Great Britain and the oversea dominions, and both received honourable mention from the Council in London.

Our old students continue to secure a good share of the lucrative appointments that fall to the lot of mining engineers, both at Home and abroad. Among the more important places obtained by them in 1913 are the following: (1) D. M. Tomlinson, B.E., A.O.S.M., general manager, Kapsan Mines (Limited), Korea; (2) E. Fletcher Roberts, assistant engineer, London Port Authority, London; (3) Alex. Fyfe, chief metallurgist, Ventanas Mining Company, Mexico; (4) F. W. Thomas, A.O.S.M., assistant manager, Bomba Tin-mines, Northern Nigeria; (5) Herbert Black, A.O.S.M., chief metallurgist, Aaquah G.M.C. (Limited), Gold Coast, West Africa; (6) Philip MacDougall, B.E., A.O.S.M., assistant manager, Bombassie Gold-mines, West Africa; (7) A. R. Andrew, D.S.C., A.O.S.M., chief mining geologist, the Anglo-Saxon Petroleum Company, Sarawak; (8) Gerhardt Ulrich, B.E., A.O.S.M., mining captain, Prestea Block A Mining Company, Gold Coast, West Africa; (9) H. C. Boydell, A.O.S.M., assistant manager, Kapsan Mines, Korea.

*Revision of Class-work.*—The lectures and class-work in mathematics, mechanics, chemistry, and physics for the associateship of the School of Mines are at present the same as for the B.A. degree. The B.A. courses of study, as defined for mathematics and chemistry, cover the requirements of a professional mining or metallurgical course satisfactorily; but the B.A. courses in mechanics and physics contain much matter that has little or no bearing on the subsequent professional work of our graduates. Radical amendment is required, especially in respect of the course in mechanics. The brilliant scholar has doubtless no difficulty with mechanics as at present defined. His is a peculiar type of brain—finer, softer, and more receptive than that of the average professional student, whose reasoning is always associated with the doing of things rather than abstract ideas. The doer is the man who builds our harbours, railways, ships, and bridges, and who produces the coal and metals required for our great industrial activities. He is rarely brilliant, but has, nevertheless, succeeded in supplying us with all the conveniences of our complex modern civilization. To produce an annual output of 1,000 tons of copper is as worthy as teaching men for the mathematical tripos. In all our work we should aim at making the course of study fit the object in view.

*A Forward Move.*—The days of the small mine are nearly past. In the last two decades the mineral industry has made prodigious strides, and mining operations are now conducted on a scale of magnitude undreamt of thirty years ago. The mining and metallurgical plant and accessories at many mines represent a value of many hundreds of thousands of pounds, and every day mining engineering is becoming more and more allied to civil engineering. The mining engineer is now required to construct roads, tramways, and railways; design and erect dams, bridges, and complicated metallurgical plant; harness rivers for the generation of hydraulic and electrical power. In order to meet the demand for more specialized knowledge in structural engineering it will be necessary for us, if we mean to keep in the front rank of engineering schools, to extend the scope of our instruction, more especially in the departments of applied mechanics, practical electricity, and surveying. This advance will necessitate the appointment of two instructors and the better equipment of our laboratories.

It has been stated by some that many of our graduates go abroad to find profitable employment. This is doubtless true; nor do we regret it. We do not pledge our medical graduates to practise in New Zealand. Why exact more from mining graduates? We must learn to view higher education from a broader outlook than the parochial or provincial. For many generations the universities of Britain have been proud to send their *alumni* to all parts of the Empire. Should we not reciprocate? Mining engineering is not one of the softer professions, but it offers a splendid field for men of grit and enterprise; and we must see to it that their equipment is the right kind before we send them out. The Mining School is the only faculty of the University of Otago representing a wealth-producing industry, and therefore deserves the most sympathetic assistance that can be given it.

*The Mineral Industry.*—The two basal wealth-producing industries are mining and agriculture; and of these mining is still by far the most important. From the mineral statistics of the British Empire for 1912, just published, we find that the value of the mineral production for that year, including coal, gold, copper, tin, gems, &c., amounted to £237,000,000. In the same year the value of agricultural products, including wheat, and all cereals, cotton, butter, cheese, &c., amounted to £149,000,000.